

REMARKS

ENTRY OF RESPONSE UNDER 37 C.F.R. §1.116

Applicants request entry of this Rule 116 Response and Request for Reconsideration because:

(a) at least certain of the rejected claims have been canceled thereby at least reducing the issues for appeal;

(b) it is believed that the amendments of claims 1, 4, 6, 7, and 8 put this application into condition for allowance;

(c) the amendments were not earlier presented because the Applicants believed in good faith that the cited prior art did not disclose the present invention as previously claimed;

(d) the amendments do not significantly alter the scope of the claims and place the application at least into a better form for appeal; and/or

(e) the Colby reference applied to the claims is newly cited in the final Office Action, and Applicants should be provided the opportunity to present patentability arguments and amendments in view thereof.

The Manual of Patent Examining Procedures sets forth in §714.12 that "[a]ny amendment that would place the case either in condition for allowance or in better form for appeal may be entered." (Underlining added for emphasis) Moreover, §714.13 sets forth that "[t]he Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTION UNDER 35 U.S.C. §103

In the Office Action, at pages 2-5, claims 1, 2, 4 and 6-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jindal et al. (USPN 6,327,622; hereafter referenced as "Jindal") in view of Colby et al. (USPN 6,449,647; hereafter referenced as "Colby"). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Claim 1 has been amended to include the subject matter of claim 2. Claim 2 has been cancelled without prejudice or disclaimer.

Claims 1, 4, 6, 7 and 8 have been amended to include the terminology ---TCP/non-TCP delivery--- prior to the terms "route" or "path" to distinguish that the present invention provides delivery without respect to whether a TCP or non-TCP delivery is utilized, i.e., the delivery system of the present invention is not split into TCP and non-TCP delivery types, but rather implements both delivery types in a conventional network. A conventional network, such as the Internet, is described on lines 5-22 of page 2 of the specification, and includes both TCP and non-TCP protocol delivery systems. An implementation of the present invention is described on lines 6-13 of page 20 of the specification, wherein a network such as the Internet is utilized.

Claims 1, 4, 6, 7 and 8 have been amended to recite "an average-adjustable congestion-evading congestion window size," which is believed to further distinguish the present invention over Jindal and/or Colby.

It is respectfully submitted that Colby teaches calculating a first minimum bandwidth for non TCP-based transmissions and a second minimum bandwidth for TCP transmissions (see col. 15, lines 8-40 and FIG. 19).

For non-TCP delivery, Colby teaches calculating a minimum bandwidth based on a total bandwidth PortBW available to the logical egress port of the flow and the hop latency hopLatency (a static value contained in the candidate server record) of the flow. Hence, Colby teaches calculating a minimum bandwidth for non-TCP delivery based on hops, which is not recited by the present invention (see below). For TCP delivery, Colby teaches calculating an average bandwidth AveBW of the requested flow based on the size of the candidate server's cache CacheSize (contained in the candidate server record), the TCP window size TcpW (contained in the content request), and the round trip time RTT (determined during the initial flow handshake), then using the average bandwidth AvgBW and the flow switch latency (a constant) to determine a minimum bandwidth requirement MinBW of the requested content. For TCP delivery, Colby does not teach adjusting the window size, but rather teaches using the TCP window size in the request. In contrast, the present invention adjusts the window size as needed to avoid congestion. Also, in contrast to Colby, the present invention does not distinguish selection of bandwidth differently for TCP delivery and for non-TCP delivery (see below). Hence, it is submitted that, by splitting delivery techniques into non-TCP delivery and TCP delivery, Colby teaches away from the present invention.

The present application recites:

(page 2, line 1 through page 3, line 4):

FIG. 9 shows the configuration of a conventional type of relaying apparatus for use in a network system. ...An example of this network is the **Internet**. (emphasis added)

A network satisfying the following conditions can be classified as the **Internet** described above. (emphasis added)

(1) The computer network has a communication protocol called TCP/IP (Transmission Control Protocol/Internet Protocol) installed therein. ...

The protocols that can be used as the TCP/IP described above are the TCP and UDP (User Datagram Protocol) protocols defined in the fourth layer (transport layer) of the OSI (Open Systems interconnection). A feature of the TCP consists in that reliable data communications (transfer) can be carried out. ...

In contrast to the fact that TCP provides a connection type of service for insuring reliability, the UDP is a so-called connection-less type of data transfer protocol for realization of high speed processing. In UDP such operations as confirmation of a response to improvement of reliability or sequence adjustment of received data transmitted through different routes in a network are not carried out.

(page 20, lines 6-13):

FIG. 1 shows a relaying apparatus for use in a network system according to a first embodiment of the present invention. As shown in this figure, a client terminal 100, client-side DNS device 110, a DNS responding device 120, path load measuring devices 130a and 130b, server terminals 140a and 140b are connected to a network (such as the **Internet**) including a plurality of routers not shown herein, and are accessible discretely. (emphasis added)

The present application recites (page 13, lines 6-24):

However, as well known, the number of hops is not always proportional to the distance. Namely, in a case where a number of routers are present in a small-scale network, the number of hops are large, but the actual distance is short because the network scale is small. In this case, the DNS responding device 13 estimates a distance which is longer than the actual one because of the large number of hops. Namely, an error between a distance estimated by the DNS responding device 12 and the actual distance is very large.

In the relaying apparatus for use in a network system based on the conventional technology, thus, a service request (IP packet) is routed according to only a number of hops as a basis for estimation of a distance including a very large estimation error. Therefore, some times the work load can not be distributed in an optimal form.

Further, even when a server terminal to which a service request (IP packet) is routed is in a high work load state and actually can not accept a request for service, routing is made only according to the estimated distance.

...

(page 14, lines 19-23) It is an object of the present invention to provide a relaying apparatus for use in a network system which can execute optimal work load distribution according to a reference reflecting an actual situation.

...

(page 24, lines 3-7) In step SA6, the path load measuring device 130a measures an effective band width in the communication path based on such parameters as a round-trip time in the communication path up to the client-side DNS device 110, a maximum segment size and an average congestion window size.

(page 25, lines 11-20) The path load measuring device 130a obtains the window size described above by checking a number of packets sent out within one window cycle according to log information of transmitted or received packets. The path load measuring device 130a also determines, when an acknowledgment packet from the communication device in the receiving side (client-side DNS device 110) does not arrive within a specified period of time, that the communication path (network) is congested, and adjusts the window size. Adjustment of the window size is executed according to a congestion-evading algorithm.

Thus, as noted above, it is respectfully submitted that Colby fails to teach or suggest providing a bandwidth measuring parameter wherein the delivery path is not split into TCP and non-TCP delivery types and basing the parameter on an adjustable congestion-evading congestion window size, as is recited by the present invention. As noted by the Examiner, Jindal fails to show the bandwidth measuring parameter of a maximum segment size and a congestion window size as shown by the present invention. Thus, since Colby and Jindal, alone or in combination, fail to teach the present invention, it is respectfully submitted that claims 1, 4, 6, 7 and 8 are allowable under 35 U.S.C. §103(a) as being unpatentable over Jindal et al. (USPN 6,327,622) in view of Colby et al. (USPN 6,449,647).

CONCLUSION

In accordance with the foregoing, claim 2 has been canceled, and claims 1, 4, 6, 7 and 8 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 4, 6, 7 and 8 are pending and under consideration. Reconsideration is respectfully requested.

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited. At a

minimum, this Amendment should be entered at least for purposes of Appeal as it either clarifies and/or narrows the issues for consideration by the Board.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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